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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/788,362	02/21/2001	Takamichi Muramatsu	NIT-129-03	1453

7590 07/03/2002  
MATTINGLY, STANGER & MALUR, P.C.  
104 East Hume Avenue  
Alexandria, VA 22301

EXAMINER

TAYLOR, JANELLE

ART UNIT	PAPER NUMBER
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1634

DATE MAILED: 07/03/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/788,362

Applicant(s)

Takamichi Muramatsu

Examiner

Janell Taylor

Art Unit

1634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 10 May 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 22-27 is/are pending in the application.
- 4a) Of the above claim(s) 24-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 22 and 23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: *Detailed Action*.

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election without traverse of claims 22 and 23 in Paper No. 9 is acknowledged.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 22-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Lee et al (Proc. Nat'l Acad. Sci., April 1991, Vol. 88, pp. 2825-2829).

Lee teaches positive selection of candidate tumor-suppressor genes by subtractive hybridization. "We describe the use of a positive selection procedure to screen for candidate tumor-suppressor genes. The basic method, subtractive hybridization, was designed to select for genes expressed uniquely or preferentially in one of a pair of closely related cell populations. cDNA-RNA hybridization distinguishes mRNAs that are equally expressed in both parental cell lines from those unpaired cDNAs that are uniquely expressed in the parental cells of interest." (Page 2825, second column.) Lee goes on to teach "The <sup>32</sup>P prelabeled single-stranded cDNA was hybridized with a 10-fold excess of tumor poly(A) mRNA from 21MT-2 cells." (page 2826, second column.) The unhybridized rare expressed genes were then subjected to a second round of subtractive hybridization and further characterized. (Figure 1).

Therefore, Lee taught all of the limitations of claims 22 and 23. An RNA having abundant expressed genes was hybridized with a probe, the abundant class was removed, and rare expressed genes not hybridized with the probes were recovered. Furthermore, the sequence of the abundant genes were known because they originated from known genes.

4. Claims 22-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Hedrick et al. (Nature, Vol. 308, March 1984, pages 149-153).

Hedrick teaches that a number of different species in a given mRNA population can be estimated from an analysis of the kinetics of cDNA-mRNA hybridization reactions. cDNA, acting as the "probe" was hybridized to an RNA population. Rare abundant class genes are then identified, after the abundant expressed genes are removed by fractionation. (Page 150). The abundant class would have a known sequence, by definition, to know that it was from the abundant class. Therefore, Hedrick teaches all of the limitations of the instant claims.

### ***Conclusion***

Any inquiries of a general nature relating to this application, including information on IDS forms, status requests, sequence listings, etc. should be directed to the Patent Analyst, Chantae Dessau, whose telephone number is (703) 605-1237.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janell Taylor Cleveland, whose telephone number is (703) 305-0273.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Jones, can be reached at (703) 308-1152.

Papers related to this application may be submitted by facsimile transmission. Papers should be faxed to Group 1634 via the PTO Fax Center using (703) 872-9306 or 872-9307 (after final). The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG (November 15, 1989.)

Janell Taylor Cleveland

July 1, 2002

  
W. Gary Jones  
Supervisory Patent Examiner  
Technology Center 1600